ABSTRACT OF THE DISCLOSURE

An apparatus and method are provided for supporting a plurality of virtual channel (VC) connections within a single virtual path (VP) in a digital communications network operating in the Asynchronous Transfer Mode (ATM). The apparatus (56) is combined with the cross-connected part of a conventional VC switch (54) to form a Data Switch (40). A VP switch (42) switches and terminates incoming bandwidth-resourced VPs on lines (48), some of which are carrying non-bandwidth-resourced VCs and switched onto lines 50 on the output side of VP switch 42. VPs on lines (50) are switched and multiplexed by the Data Switch (40). Buffers (66) store cells and a VP rate server. The buffers (66) are significantly larger than in a conventional VC switch to enable smoothing of data flow peaks associated with data flowing from multiple bandwidth resourced VP tributaries into single resourced VP tributaries. Despite the large buffers in the Data Switch (40) congestion may result when data bursts occur on several converging streams. When buffer overflow is threatened, Data Switch (40) discards whole frames, i.e., whole VPI-VCI sequences marked with an end of transmission delimiter in the PTI, rather than individual cells originating from different frames as with normal ATM cell multiplexing.